What is claimed is:

1. A TGF-β superfamily chimeric protein derived from at least two different members of said superfamily, said chimeric protein comprising a dimer wherein one monomer comprises a finger 1 subdomain, a finger 2 subdomain and a heel subdomain, said finger 2 subdomain being derived from a first member of said superfamily, said finger 1 or heel subdomain being derived from a second, different member of said superfamily, wherein said monomer further comprises a conserved C-terminal cysteine skeleton.

2. The chimeric protein of claim 1, wherein said second member is OP-1 (SEQ ID NO: 39).

3. The chimeric protein of claim 1, wherein said first member is CDMP-2 (SEQ ID NO: 10) and said second member is OP-1 (SEQ ID NO: 39).

4. The chimeric protein of claim 1, wherein said first member is BMP-2 (SEQ ID NO: 2) and said second member is OP-1 (SEQ ID NO: 39).

5. The chimeric protein of claim 1, wherein said finger 1 subdomain is derived from OP-1 (SEQ ID NO: 39), said finger 2 subdomain is derived from CDMP-2 (SEQ ID NO: 10), and said heel domain comprises at least a portion of the heel domain of OP-1 (SEQ ID NO: 39).

6. The chimeric protein of claim 1, wherein said protein comprises a dimer having identical monomers.

7. The chimeric protein of claim 1, wherein said monomer further comprises a finger 1 or heel subdomain derived from a third, different member of said superfamily.

8. A DNA sequence encoding the monomer of said TGF-β superfamily chimeric protein of claim 1.

9. A method of manufacturing a TGF-β superfamily chimeric protein having an altered attribute relative to a native TGF-β superfamily protein, said method comprising the steps of:

(a) producing the chimeric protein of claim 1.

10. The method of claim 9, wherein said altered attribute is selected from the group consisting of: altered amino acid sequence; altered protein folding; altered protein stability; altered protein solubility; altered isoelectric point; altered binding to solid surfaces; altered binding to solubilized carriers; altered biospecificity; altered specific activity; and altered morphogenic activity.

11. The method of claim 9, wherein said altered attribute is altered amino acid sequence.

12. The method of claim 9, wherein said chimeric protein has a plurality of altered attributes.

13. The method of claim 9, wherein step (a) is accomplished using a production method selected from the group consisting of: automated peptide synthesis (chemosynthesis); expressing a DNA sequence encoding said chimeric protein (recombinant synthesis); and ligating peptide fragments corresponding to one or more subdomains or fragments thereof (biosynthesis).

14. The method of claim 9, wherein step (a) is accomplished by providing conditions under which protein folding can occur.

15. A method of inducing tissue morphogenesis, said method comprising the step of: administering a morphogenic effective amount of the chimeric protein of claim 1, 2, 3, 4, 5 or 6.

16. The method of claim 15, wherein said tissue is selected from the group consisting of: bone; non-mineralized skeletal tissue; dental tissue; connective tissue; brain; liver; and nerve.

17. A method of determining the epitope recognized by an antibody that binds a first TGF-β superfamily protein and does not bind a second TGF-β superfamily protein, the method comprising:

replacing part or all of a C-terminal subdomain of the first TGF-β superfamily protein with part or all of the corresponding subdomain of the second TGF-β superfamily protein to create a chimeric protein;

exposing the chimeric protein to the antibody under conditions that allow folding of the chimeric protein and binding of the antibody to its antigen; and

detecting the binding of the antibody to the chimeric protein, wherein presence of the binding indicates that the epitope of the antibody does not reside within the replaced portion of the C-terminal subdomain of the first TGF-β superfamily protein, and absence of the binding indicates that the epitope resides within the replaced portion of the C-terminal domain of the first TGF-β superfamily protein.